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Art Unit: Unassigned

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Kenneth M. WILLIAMSON et al.

United States National Phase of International Application

No. PCT/US00/26112

Filed: March 19, 2002

For:

FILTER ELEMENTS AND FILTERING

METHODS

PRELIMINARY AMENDMENT

Commissioner for Patents Washington, D.C. 20231

Dear Sir:

Prior to calculation of the filing fee and the examination of the above-identified patent application, please enter the following amendments and consider the following remarks.

IN THE CLAIMS:

Replace the existing claims with:

- 3. A filter element as claimed in claim 1 wherein the first functional drainage layer has an edgewise flow resistance at most approximately 50% that of the filter layer.
- 4. A filter element as claimed in claim 1 wherein the first leg contacts the second leg of the same pleat and the second leg of an adjoining pleat over a substantially continuous region extending for a substantial portion of the height of the first leg and over at least fifty percent of an axial length of the filter element.
- 5. A filter element as claimed in claim 1 wherein the pleated composite includes a second functional drainage layer disposed on the second side of the filter layer and comprising a functional material and having a lower edgewise flow resistance than the filter layer.

In re Appln. of Williamson et al. Application No. Unassigned

- 6. A filter element as claimed in claim 1 wherein the first functional drainage layer comprises a porous fibrous sheet containing the functional material.
- 7. A filter element as claimed in claim 1 wherein the first functional drainage layer contacts the filter layer.
 - 8. A filter element as claimed in claim 1 wherein the filter element is cylindrical.
- 9. A filter element as claimed in claim 1 wherein a plurality of the pleats each have a radially outer end displaced in a circumferential direction of the filter element with respect to a radially inner end of the pleat.
- 10. A filter element as claimed in claim 1 wherein the pleats are substantially parallel to each other.
- 14. A filter element as claimed in claim 1 wherein a drainage layer comprises a fibrous sheet in which particles of the functional material are integrated.
- 17. A filter element as claimed in claim 15 wherein the support plate is annular and an opening is at a radial center of the support plate.
- 20. A filter element as claimed in claim 18 wherein each of the drainage layers comprises a functional material.
- 21. A filter element as claimed in any of claim 18 wherein each of the filter layers and each of the drainage layers is substantially flat.
- 24. A method as claimed in claim 22 including passing the fluid in an axial direction of the filter element between opposite lengthwise ends thereof.

In re Appln. of Williamson et al. Application No. Unassigned

- 25. A method as claimed in claim 22 including passing the fluid primarily in an axial direction of the filter element through the first functional drainage layer.
- 26. A method as claimed in claim 22 including passing the fluid through the first functional drainage layer primarily along a height direction of the pleats.
 - 27. A method as claimed in claim 22 wherein the filter element is cylindrical.
 - 28. A method as claimed in claim 22 wherein the pleats are parallel to each other.